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LINGUISTIC AND CONCEPTUAL METAPHORS OF 'HEART' IN LEARNER CORPORA

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LINGUISTIC AND CONCEPTUAL METAPHORS OF 'HEART' IN LEARNER CORPORA

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in the College of Arts and Sciences at the University of Kentucky

By

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ABSTRACT OF THESIS

LINGUISTIC AND CONCEPTUAL METAPHORS
OF 'HEART' IN LEARNER CORPORA

This corpus-based study examined English and Spanish learner language for 'heart' metaphors. Gutiérrez Pérez (2008) compared 'heart' metaphors across five languages and that study served as a reference framework for the work presented here. This work intended to find evidence of metaphor transfer and/or new metaphor learning in second language writing. Conceptual metaphors (Lakoff and Johnson, 1980) and linguistic or lexical metaphors (Falck, 2012) from both languages were considered in the analysis. This work analyzed 'heart' metaphors taken from two learner corpora, the Cambridge Learner Corpus and the Corpus de Aprendices de Español. Results were compared to the findings of Gutiérrez Pérez (2008) to see whether these metaphors typically occur only in English, only in Spanish, or are found in both languages. The results showed evidence of language learners using several kinds of metaphors that do not typically occur in their first language. The aim of this study was to add a new facet to this body of research by examining these phenomena in learner corpora rather than monolingual corpora. Furthermore, this study also examined both second language English and second language Spanish corpora, addressing potential bi-directionality of transfer or conversely, the use of new linguistic forms.

KEYWORDS: Second Language Acquisition; Acquisition of Metaphor; Learner Corpora; Emotion Metaphors

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Chapter 1: Introduction

We may often think of metaphor as a clever literary device that aligns something abstract with something concrete. Very likely, this concept calls to mind the work of the great writers, artists, and thinkers. Shakespeare, Dickinson, and Wordsworth, for example, were known to create these metaphors that we admire so much. While we certainly evaluate some metaphors as much more elaborate than others, most people craft metaphors in their daily language use. This facet of language is further complexified when we consider that metaphors may reveal conceptual mappings. In linguistics, researchers have not necessarily agreed upon an all-encompassing definition of metaphor, but many follow the catch-all description provided by Lakoff and Johnson (2008). They state that in general, "the essence of metaphor is understanding and experiencing one kind of thing in terms of another" (Lakoff and Johnson 2008, p. 5). This definition is further clarified by what these researchers termed "cross domain mapping," (seen in more detail in Chapter 2), which delineates two domains, and source domain and target domain, to explain how metaphors are formed. One area that often notably displays metaphorical and non-literal language is the discussion of emotions (Kövecses (2003), and particularly the origin of emotions, which are often metaphorically grounded in parts of the body.

This area of language is especially challenging when we consider the implications for learners trying to learn and use metaphor in a second language, or L2[1]. Researchers are currently investigating what Danesi (1992) called "metaphoric competence" in language learning. Keeping in mind that many consider metaphor to be a window into the conceptual system of a speaker, Danesi's emphasis on this "neglected dimension" (1992, p. 489) sought to prioritize conceptual fluency over verbal fluency, noting that "students typically use target language words and structures as 'carriers' of their own native language concepts" (1992, p. 490). This

[1]In this paper, "L1" is used to designate the native or first language, while "L2" refers to the learners' second language.

may be especially evident in the employment of metaphor in the L2 if the conceptual frameworks between languages do not align exactly.

Researchers have also examined metaphor as it relates to emotions and origins of emotion, not only in the L1, but in the L2 as well (see Emanation (1995), Yu (2009), Doiz and Elizari (2013), and Wierzbicka (2008), among others). This facet of language acquisition may prove to be a large hurdle for second language learners especially in areas where the metaphors in the native and target languages are dissimilar. For example, Charteris-Black (2002) details the Malay concept that emotions typically originate in the liver, rather than in the heart as is considered typical from the perspective of an English speaker. Another example comes from Yu (2007), who examined the metaphorical uses of 'heart' in ancient Chinese philosophy and medicine, and found that 'heart' is often described as a seat of thought, whereas English speakers might use the word 'mind' to express a similar idea. Learning these conceptual differences between the L1 and L2 presents a major challenge, and the study of how these abstract concepts are addressed by second language instructors and learners is crucial.

This study is a corpus-based examination of metaphor use by L2 English and L2 Spanish speakers. The corpora detailed here are English and Spanish learner corpora, each containing texts written by learners from a variety of L1s and language-learning backgrounds. The L1s in this work have been limited to English or Peninsular Spanish, depending on the corpus. Each corpus was examined for use of 'the heart'[2] as the origin of emotion, or used in a non-literal sense, and evaluated by comparing common English and Spanish expressions involving the heart, and where those differ or align. The writing under investigation here was limited to L1 Peninsular Spanish, L2 English from one corpus and L1 English, L2 Peninsular Spanish from the other. The intent is to study whether and how learner language displays these cross-domain mappings, and whether there is evidence of cross-linguistic transfer in the area of metaphor.

[2] This thesis will use 'the heart' or 'heart' at times to distinguish the word in the text.

Throughout the chapters of this thesis, I will address several key issues in the discussion of metaphor. First, I examine what metaphor is and the conceptualization of its behavior by researchers in the field. Secondly, I discuss the nature of cross-cultural and cross-linguistic metaphor by examining research that studies whether and how cultural origin influences the abstract language. I then present the findings of this investigation, which used learner corpora to study conceptual and linguistic metaphors of 'the heart.' Finally, I will highlight the implications of these results and the findings of other researchers to comment on the importance of learning and teaching metaphor and abstract language as part of the L2 curriculum. This thesis builds upon the work of several studies. In particular, the Italian/English comparison of metaphorical use of body parts by Diegnan and Potter (2004) in L1 Italian and L1 English corpora, and the study from Gutiérrez Pérez (2008), which compared metaphorical and metonymic uses of "heart" across 5 languages using monolingual and bilingual lexicographical data. The aim of this study is to add a new facet to this body of research by examining these phenomena in learner corpora, providing analysis and results from several corpora, including L2 English and L2 Spanish texts. Furthermore, this study also examines both L2 English and L2 Spanish corpora, addressing the potential bi-directionality of transfer or conversely, the use of new linguistic forms typical of the L2 but not seen in the L1.

The research questions are as follows:

1) Is there evidence of L1 transfer of cross-domain mapping in the use of 'heart' in the L2 learner corpora data? In other words, is there evidence of L1 Spanish[3] speakers using 'heart' metaphorically in English[4] in ways that are unique to Spanish, as proposed by Gutiérrez Pérez (2008)? Similarly, is there evidence of L1 English speakers using 'heart' metaphorically in Spanish in ways that are unique to English, as proposed by Gutiérrez Pérez (2008)?

[3] In this study, the variety of Spanish is predominantly Peninsular Spanish.

[4] The English discussed in this study is mainly American English, except where noted. See discussion chapter for more commentary.

2) Is there evidence of new metaphorical uses of 'heart' in learner corpora data? In other words, is there evidence of L1 Spanish speakers using 'heart' metaphorically in English in ways that are not typically seen in Spanish as proposed by Gutiérrez Pérez (2008)? Similarly, is there evidence of L1 English speakers using 'heart' in Spanish in ways that are not typically seen in English as proposed by Gutiérrez Pérez (2008)?

Chapter 2: Literature Review

2.1: Metaphor as cross-domain mapping

Lakoff and Johnson attempted to transcribe common English metaphors in all their forms in their seminal work *Metaphors We Live By* (1980)- now an oft-cited reference for metaphor researchers. To give an example, Lakoff and Johnson highlight such metaphors from whence English speakers draw their pairings of mood with physical orientation, such as HAPPY IS UP and SAD IS DOWN[5] with the examples: "I'm feeling up. That boosted my spirits. My spirits rose. You're in high spirits. Thinking about her always gives me a lift. I'm feeling down. I'm depressed. He's really low these days. I fell into a depression. My spirits sank" (Lakoff and Johnson, 1980, p. 15). As noted above, Lakoff and Johnson (1980) characterized metaphor as "cross-domain mapping" which references a source domain and a target domain. The researchers point out that the metaphors they describe are often structured as: "target domain is the source domain." For example, if we use the LOVE IS A JOURNEY metaphor as an example:

Table 2.1.1: Illustration of source and target domains

Target Domain	Source Domain
Love	Journey

Therefore, the researchers argue, when speakers discuss love in terms of a journey, they are mapping the source domain (journey) onto the target domain (love). Furthermore, Lakoff (1993) argued that people *conceptually* link domains in their minds, and that this creates a conceptual metaphor that emerges in language. Lakoff also maintained that these conceptual links are not superficial linguistic phenomena, but that metaphorical discussion of target domain retains the characteristics of the source domain, as we can see in the examples of the above-mentioned metaphor LOVE IS A JOURNEY from Lakoff and Johnson (2008, p. 44-45):*"Look how far we've come. It's been a long, bumpy road. We're at a crossroads. We*

[5] Typically, conceptual metaphors are written in small caps.

may have to go our separate ways. Our marriage is on the rocks. We're spinning our wheels." Put another way, thinking about love calls to mind some kind of travel or journey, so articulation about love often involves language related to any part of a journey or travel, including a path or road, a structure or vessel that carries people, the amount of distance travelled, and so on. In the same vein, Diegnan stated that metaphor is "a central mechanism through which words develop multiple meanings" (1999, p.19).

2.2: Conceptual and Linguistic Metaphors

Here, it is necessary to distinguish conceptual metaphor from linguistic metaphor. *Conceptual metaphors* (Lakoff and Johnson, 1980) are overarching cross-domain mappings that influence our thinking, whereas *linguistic metaphors* are the linguistic realizations of those conceptual metaphors. For example, a conceptual metaphor, ARGUMENT IS WAR (Lakoff and Johnson, 1980) may precipitate such linguistic metaphors as: *he can't defend his claims* or *they shot down the argument*. Falck (2012) examined differences at the level of linguistic metaphor, suggesting, "even though metaphors are grounded in embodied experience, our language still shapes how these experiences are used" (p. 110). Falck's (2012) study identified several conceptual metaphors from Lakoff and Johnson (1999, p. 190-192) such as PURPOSES ARE DESTINATIONS and ACTIONS ARE SELF-PROPELLED MOVEMENTS, and studied the related linguistic metaphors produced by native and non-native speakers. The author emphasized the importance of examining linguistic or lexical metaphors, and not just conceptual metaphors, as important linguistic information (see Falck, 2012 and Svanlund, 2007).

To go into more detail, Falck's corpus-based study examined the differences in the usage of "path," "road," and "way" in the L2 English among L1 Swedish speakers and native English speakers. The author pointed out that in the use of the lexical item "way" in Swedish, more emphasis is placed on the manner in which something is performed, rather than movement along a plane (how it is often used in English). Using corpus data from L1 English and L1 Swedish speakers, Falck compared the use of the Swedish lexical items *stig* ("path" in English, not typically used metaphorically in Swedish) and *väg* (in English, "road" and/or "way", with a

focus on motion) to English speakers' uses of "path" and "way." Furthermore, Falck also looked at L1 Swedish English learners' uses of the road, path, and way in a learner corpus. This investigation revealed the L1 Swedish students used English "road," "path," and "way" without errors, but tended to more frequently use "on" associated with "path," rather than "along" with "path" as seen in the L1 English speaker data from the British National Corpus (BNC). This finding highlights the importance of understanding the linguistic or lexical implementation of conceptual metaphors, and the potential implications for language learners. Falck's (2012) study served as a guide for the work presented here, with emphasis placed on the examination of the different levels of metaphor - conceptual and linguistic.

Whitley (2002) also studied differences between languages at the lexical level, including the challenging topic of polysemy, in a work intended as a resource for teachers of English and Spanish. One chapter in particular was devoted to conceptual differences between the two languages that are manifest in challenges for learners. For example, in the use of *irse* and *venir*, native English speakers need to "avoid the practice of taking the addressee's perspective" (331) as they would in English, which might lead them to incorrect lexical usages in Spanish. This highlights some of the conceptual reconfiguring that has to occur when learning and using another language. Furthermore, Whitley notes the tendency for L2 students to find a target lexical item in a dictionary or thesaurus and to pick one of the words supplied, sometimes without evaluating the subtle semantic differences and associations that each word has. Considering Falck (2012), these lexical items may carry metaphorical associations in the target language that are not representative of what the learner is trying to say.

2.3: Cross-cultural variation in metaphor

Wierzbicka (1999) details the variety that languages and cultures display in describing emotion and/or feelings- and whether the terms "feeling" and "emotion" are even used by different cultures at all, or are simply lenses through which English-speaking researchers examine other cultures' articulations. In *English Meaning and Culture* (2006) Wierzbicka writes, "there is a widespread view that English can be used worldwide as a culturally neutral medium of communication"

(308). Certain emotional concepts, like *happy* and *sad* are often assumed to be universally human, but this is not necessarily the case. Furthermore, Enfield and Wierzbicka (2002) encourage emotion researchers to understand and acknowledge their own biases when taking part in research of this nature, and recognize that just because emotions feel biological, they are not necessarily experienced and/or discussed in similar ways cross-culturally.

Wierzbicka (2007) also cautions against exoticizing the terms for parts of the body of other cultures especially between cultures that are very different or with highly distinct linguistic behavior. For example, Wierzbicka reports that some languages do not use separate lexical items for "hands" and "arms," which has caused even contemporary researchers to say that a certain language has no words for "hands" (16). Additionally, the author notes that previous work in this field has implied that languages that differed greatly from the language of comparison (often English) are more "primitive." Wierzbicka writes the following: "A quarter of a century ago, Hallpike (1979) in his Foundations of Primitive Thought claimed that various "primitive" tribes in Papua New Guinea fail to distinguish the concepts of 'knowing' and 'thinking' from the concept of 'hearing', because they use the same word for 'know' and for 'hear', or for 'think' and for 'hear'" (2007, p. 17).

Wierzbicka argues that previous and even current researchers often ignore the polysemy of other cultures in their interpretations, and use English as a seemingly neutral comparison tool (2006). The danger of oversimplifying the variation between languages is not lost in this analysis, and over-speculation and deviation from the guiding metaphor template were avoided, which is addressed in the discussion below.

Diegnan and Potter (2003) noted that the expectation is that many central metaphors are based on bodily experience, and therefore are shared or very similar across different languages and cultures. Indeed, Lakoff (1993) implies the universal nature of metaphor, as does Gibbs (1993, 1994). These authors also emphasize the difference between linguistic and conceptual metaphor, understanding that a metaphor may be shared cross-culturally or cross-linguistically but that discussion of the domains may vary widely. Diegnan and Potter compared Italian and English

corpora results in a study of four body parts: nose, mouth, eye, and heart (2003). These were chosen partially because of the frequency of these body parts constituting many multi-word expressions and displaying frequent non-literal usage. These researchers found many similar conceptions for the body parts, but the usage difference was frequency.

Understanding that there are differences at the levels of linguistic and conceptual metaphor is essential for comprehension of the target language and conceptual system. There is a body of metaphor research that examines the loss of understanding that may occur when second language learners encounter metaphorical language in the L2. Littlemore (2001) notes that consideration of metaphoric competence is vital in the language classroom, and notes the consideration of individual differences in this type of competence. In their study, Littlemore and colleagues conducted a quantitative and qualitative study measuring students' learning styles and metaphoric competences. The authors considered the many different measures that researchers have used to study metaphor comprehension, such as the instrument implemented by Gardner et al. (1974), which was designed to test children's capacity to create and appreciate novel metaphors. To study this, Littlemore designed a 15-minute interview to test communicative ability, which was then analyzed by the researchers. This work speaks to the importance of considering individual learner differences with regard to comprehending and using metaphor in language, including the L1 and extending into second language learning. Individual differences may be challenging to identify in a learner corpus but must be considered in the analysis of the results.

Many other studies have examined the interplay between culture and metaphor comprehension. Wang and Dowker's 2010 study examined cross-cultural metaphor interpretation among Chinese and English-speaking children and adults. They found that the Chinese-speaking participants provided more psychological interpretations of the given metaphors, and posited that the more frequent use of proverbs, idioms, and stories to interpret the test metaphors showed that these are more deeply rooted in Chinese culture. The authors pointed out that these potential cultural differences may have resulted in different interpretations among the

English and Chinese participants. This is important to consider as we examine the L2 writing from speakers of different L1s and understand that people have experienced or taken part in a variety of cultural environments. Some corpora, including Sylviane Granger's International Corpus of Learner English (ICLE), as well as the Corpus de Aprendices de Español (CAES), obtain meta-data about the language learning environment of each participant, which could allow for more informed commentary about the relationship between learner variables and the nature of metaphor usage.

Deignan, Gabrys, and Solska (1997) examined L2 metaphor comprehension among native Polish speakers learning English. In this study, learners tried to identify the meaning and Polish equivalent of several English metaphors. The students were of the same proficiency level and worked in small groups on this task. The authors of this study noted the importance of drawing learners' attention to preferred metaphors in the L2, whose usage frequencies may, or may not, correspond to equivalent metaphors in the L1. Drawing attention to these metaphors is proposed as a teaching tool for L2 learners of English. Another important facet of this work involved metaphors or figurative language that did not carry over into the L2, which could be problematic for these particular students when learning the L2. The authors proposed a common second language teaching approach, drawing attention to an aspect of the target language through a directed task in order to facilitate the acquisition of figurative speech, an often-overlooked aspect of L2 learning. This work relates closely to a later work by Diegnan (2003), which discusses metaphors that do not carry over between cultures, which may manifest in surprising or unusual metaphorical language use in the L2. Similarly, Boers (2003) notes that cultural variation can "carry the risk of learners' missing culture-specific "connotations" of certain figurative expressions, which can in turn lead to communication failure" (p. 235).

Relevant findings from second language acquisition (SLA) research must be considered here, as well. Lado argues that some language-learning challenges might be ascribed to similarity or difference between the L1 and L2 (1957). The Markedness Differential Hypothesis (MDH) proposes that certain features are more

salient and will be acquired before others when learning a new language (Eckman, 1977). Moreover, Major and Kim (1996), with the Similarity Differential Rate Hypothesis (SDRH), predicted that dissimilar features between L1 and L2 will be acquired at a faster rate than similar features, though, there is evidence to the contrary, as well. If we extend this analysis to metaphors, we might predict that very dissimilar linguistic and conceptual metaphors would be acquired more quickly and accurately than similar conceptual and linguistic metaphors.

The implications of a corpus study relating to metaphor use among language learners include a demand for increased attention to this type of expression in the second language classroom. A comprehensive work by Doiz and Elizari (2013) describes a research study of a lesson plan involving metaphor and the subsequent comprehension and retention of lexical items in the L2. In this study, L1 Spanish students- with some proficiency in Basque- comprised a control group and experimental group that participated in lessons in English as a foreign language. The experimental group (EG) participated in the lesson with the use of the metaphors ANGER IS FIRE and ANGER IS A HOT LIQUID IN A CONTAINER, while the control group (CG) completed the lesson without the use of metaphor. In the results, the EG performed significantly better than the control group with regards to memorizing lexical items related to anger. There were some phrases that challenged both groups, including the phrase "simmer down" and the authors speculated that this was due to the lack of a parallel phrase or concept in Spanish or Basque.

The intersection of these language and cultural differences often create challenging situations for learners. Another example of a difficulty faced by learners is polysemy, or the idea that a single word can evoke meanings in two conceptual domains. Lakoff (1987) illustrates this with the word "warm" which has not only several literal uses, such as "warm day" or "warm winter clothing," but also figurative uses, such as "she is a warm person." Csábi (2004) echoes the call for second language instructors to call attention to the different meanings associated with lexical items, both physical and figurative. Csábi also encourages instructors to face this challenging vocabulary head-on, knowing that instructors may shy away from polysemous words for fear that they will confound students.

As noted above, Kövecses (2003) notes that metaphors "pervade" discussion of emotion (20), and that understanding metaphor allows researchers to understand how speakers conceptualize emotion. This book also addresses the universality of conceptual metaphor in English – with evidence that poets, novelists, and everyday people demonstrate the conceptual links in question. Kövecses also discusses metonymy in great detail. Unlike metaphor, which deals with two or more domains, metonymy only uses one domain, and represents a "stand for" relationship. Metonymy is not broadly addressed in this thesis, as it conflicts with the "Pragglejaz" method of identifying metaphor adopted in this study.

Chapter 3: Method

3.1: Compilation of Reference Data from Gutiérrez Pérez (2008)

Gutiérrez Pérez (2008) performed the systematic examination of metaphors and metonymy related to 'the heart' that formed the basis of the set of metaphors chosen for examination in this thesis. Gutiérrez Pérez comprehensively compared 'heart' metaphors across 5 languages: English and German (both Germanic), and Italian, Spanish, and French (Romance languages). The researcher used monolingual and bilingual dictionaries, as well as thesauri to examine common idioms and conceptual and linguistic metaphors among these five languages, noting where they are similar and where they differ. The use of these materials, along with corpus data is strongly supported by Diegnan (1999) to describe how language is used naturally. Furthermore, Gutiérrez Pérez followed the model of Barcelona (2001), who described how to link conceptual metaphors across languages. The results compiled for the 2008 study provided the benchmark for metaphors examined in learner corpora in this study.

From this data, we can see that English and Spanish overlapped on many conceptual metaphors. For example, both use the metaphors THE HEART IS A CONTAINER FOR EMOTION, and THE HEART IS THE SEAT OF LOVE and used similar lexical or linguistic metaphors to express these ideas. However, subtle differences emerge in this data. English uses "to wear your heart on your sleeve" to suggest that someone is clearly showing their feelings, while Spanish uses "*hablar con el corazón en la mano*" (in English, "to speak with the heart in the hand") for a similar meaning. This is an example of an area where even though many English speakers do not use this particular equivalency (to speak with the heart in hand), it seems familiar and probably could be linked by a speaker to its meaning in English. English displays linguistic metaphors such as "warm heart(ed)" and "cold heart(ed)," and while Spanish does not use those particular comparisons there is the Spanish linguistic metaphor "*tener un corazón de hielo*" (In English, "to have a heart of ice") with a similar meaning. Some linguistic metaphors in both languages involve the heart while the other language does not. For example, Spanish uses "*tener una*

corazonada" to articulate what English speakers would call "a hunch." Similarly, English uses the phrase "learn by heart" to describe memorization, while Spanish uses "*recordar de memoria*" (in English, "to remember/recall from memory") to express the same idea. Spanish also uses *corazón pequeño* or "small heart" to reference someone who scares easily[6]. Since Gutiérrez Pérez (2008) identifies 'heart' metaphors across 5 languages, it was important to carefully look through all the data to find the specific differences between English and Spanish at the level of linguistic metaphor, and much less frequently, conceptual metaphor.

[6] The tables presented here do not make a claim that these particular linguistic and conceptual metaphors are *always* or *never* seen in the L1, but that they are predominantly used by speakers of those varieties.

Table 3.1.1: Linguistic and conceptual "heart" metaphors shared by Peninsular Spanish and English as compiled by Gutiérrez Pérez (2008)

Gutiérrez Pérez 2008: Heart Metaphors shared by English and Spanish
The heart is a container for emotion (this covers many submetaphors including love, kindness, generosity, affection, desire and courage)
The heart is the seat of love
The heart is a breakable object (broken heart and/or *tener el corazón roto*)
The heart is sincerity (from the bottom of my heart and/or *desde lo más profundo del corazón*)
Speak from the heart and *hablar con el/del corazón*
Lose heart/ *descorazonarse*
Take heart, *reconfortarse*[7] (root is heart)
Hacer de tripas corazón/ pluck up the courage
The heart is material: heart of gold, *un corazón de oro*
Heart of stone (unfeeling), *tener un corazón de piedra*
Hard-hearted and tender-hearted (Spanish uses *corazón bueno* or *corazón blando*)
Big heart and connotations
Having no heart, *no tiene corazón*
The heart is a living organism (my heart tells me... or *me lo dice el corazón*)
The heart is the center or core of something (heart of the city… *or el corazón de la ciudad*)
Artichoke hearts and *corazones de alcachofas*
Steal/ win someone's heart
Have the heart in one's mouth (unforeseen reaction from a fright)
Proverbs: out of fullness of the heart the mouth speaks and *de la abundancia del corazón habla la boca*
Cold hands, warm heart and *manos frías, corazón caliente*

[7] Gutiérrez Pérez notes that the Romance language expressions of "courage" or "cheer up" contain the root "cor," meaning heart (2008, p. 36):
"Sp. Reconfortarse
It. Rincorarsi (prendere/ acquistare coraggio)
Fr. Se réconforter ((re)prendre courage)"

Table 3.1.2: Linguistic and conceptual "heart" metaphors used mainly in Peninsular Spanish as compiled by Gutiérrez Pérez (2008)

Gutiérrez Pérez 2008: Linguistic metaphors for heart used in predominantly Spanish
Hablar con el corazón en la mano- Speak with the heart in hand (to be transparent)
El corazón pequeño- small heart (easily frightened)
Encoger el corazón- the heart shrinks (with pity or sympathy or fear)
Tener un corazón de hielo- heart of ice (to be cold-hearted)
Tener una corazonada (to have a hunch)
Dedo corazón- heart finger (middle finger)
Tener el corazón en un puño- to have the heart in a fist (react to a fright)

Table 3.1.3: Linguistic and conceptual "heart" metaphors used mainly in English as compiled by Gutiérrez Pérez (2008)

Gutiérrez Pérez 2008: Linguistic metaphors for heart used in predominantly English
To have something at heart (worry)
My heart goes out to you
Take something to heart
It makes my heart bleed (wounded)
To one's heart's desire/content
To wear the heart on the sleeve (clearly showing feelings)
The heart sinks (Spanish uses "se le cayó el alma a los pies" or "the soul falls to the feet" to express a similar sentiment)
Lion heart
Chicken Heart
Hearts swells with pride
The heart gets filled with joy
The heart gets heavy with grief
A person can be warmhearted (or warm-hearted) or coldhearted (or cold-hearted)
Heat softens the heart "warms the cockles of my heart"
The heart is the seat of intellect "to learn by heart" (Spanish uses "*aprender de memoria*" or "learn by memory")
Heartburn

3.2: Determination of Metaphor

Determining metaphor in a corpus is a challenging task. A thorough method for identifying metaphor in text was put forth by the Pragglejaz group (2007). This approach has been distinguished for its comprehensive nature due to this being a word-by-word, manual examination method. Several other studies have proposed other methods, like Mason's 2004 study, which sought to fill this gap in the research by constructing a program called CorMet, which sought to identify and locate

"metaphorical mappings between concepts" (Mason 2004, p. 23). Though promising, the author included a caveat to say that their method would fail to identify every instance of metaphor in a corpus, but would be able to identify certain common metaphors. The Pragglejaz group began with a discussion of listener/reader comprehension and intuition, and noted that there is likely to be disagreement on what constitutes metaphorical language, or how much of a given piece of writing is metaphorical. For example, they discuss Dickens' *Bleak House* and the opening description of the fog rising from the river. They note the fact that the fog in London is a known phenomenon, but that it seems obvious that the physical description of the city in this particular story is more of an allegory, and that presence of the fog represents some larger, more abstract idea. This highlights the somewhat murky nature of determining metaphor. Gutiérrez Pérez (2008) notes that there may appear to be a high degree of researcher or speaker intuition involved in metaphor research and that different interpretations are always possible.

The complication that the Pragglejaz group notes, namely, the variation in intuitive judgments of whether something is or is not metaphorical, speaks to the need for inter-rater reliability checks in the procedure. Using the painstakingly thorough Pragglejaz method on corpus data would certainly present a challenge for internal checks of the rater's intuitive judgment of metaphor. However, the Pragglejaz method may prove to be the most useful in determining whether the tokens on a list of potential metaphorical uses are indeed figurative.

3.3: Learner Corpora Overview

This investigation examined two learner corpora: one that featured L2 English writing and another that featured L2 Spanish writing. These corpora are detailed in this section.

The Coded Cambridge Learner Corpus (CLC) Version 4.1 is a written learner corpus of over 25 million words (27,063,629) in 194,694 discrete documents[8]. This is an online resource that is used with Sketch Engine software as a platform with access granted by Cambridge University. Most of the documents are student

[8] This corpus was used with permission given by the creators of Cambridge Corpora.

responses to English as a Second Language (ESOL) exams, and generally consist of student essays of 150 or 250 words wherein the learners would write a letter or discursive essay (Cullen, French, and Jakeman, 2014). Impressively, this corpus is coded by hand for errors, meaning that if a learner misspells "heart" as "hart" or "hert" or "hear" or "hearth" a lemma search for "heart" will return even those forms. Likewise, the concordance results of a learner intending to write "hear" and erroneously writing "heart" will appear in the lemma "heart" search results. Furthermore, the lemma search also yields results of suggested corrections that contain 'heart,' even if the original word or phrase did not contain heart. These features made the searches for 'heart' in this corpus very comprehensive.

The concordance display is color coded so that the viewer can clearly see a supposed error (in red) and a suggested correction (in green). This corpus features 21 task and learner variables, including age, first language, nationality, exam type, whether the student passed or failed the target level, and education level. A full list of the variables is available in the appendix. The subcorpus of L2 English writing of native Peninsular Spanish speakers is 1,798,275 words. This particular corpus is intended and especially well suited as a resource for second language instructors.

The smaller of the two corpora, the Corpus de aprendices de Español como lengua extranjera (CAES), is a free online resource compiled by the Cervantes Institute and is a 575,000-word corpus with writing from different learners representing six native languages as they learn and acquire Spanish as a foreign language. This corpus holds texts from 1,423 students, who each contributed 2-3 essays. The sub-corpus of the L2 Spanish writing of native English speakers features a selection of 227 student essays with a total of 106,968 words. This corpus is publicly available via the Cervantes Institute website, and is compiled intentionally in a manner similar to Granger's International Corpus of Learner English (2003). The CAES allows the user to select such variables as learner level (A1 to C1), L1, country of residence, age, and sex. A full list of the variables is available in the appendix.

3.4: Participant Selection

The participants' essays and exams used in this study were chosen for their native and target language varieties. From the Cambridge Learner Corpus (CLC), the Peninsular Spanish subcorpus was created using the Sketch Engine software provided online by the CLC. This was performed under the "search" tab under "text types" which gives the user an option to create a new subcorpus with all search parameters available. In this case, the only criterion that was used was native language "European Spanish[9]."

In the Corpus de Aprendices de Español (CAES), the participant selection method simply involves selecting the native language. Any additional searches involving learner or task variables can be manually entered into the search function's drop-down menu options.

3.5: Data Compilation

The data was extracted manually from each corpus and placed into individual spreadsheets in order to accommodate for any formatting or task/learner variable differences.

The CAES supports the use of regular expression searches (Guía de consulta CAES, p. 5)**.** To identify "corazón" and other derived forms of the word in this corpus among native English speakers, the following searches were performed:

Table 3.5.1: Search strings used in CAES

corazón (12 tokens)
cora* (which located zero or more tokens than previous search, including plurals)
corazonada (0 tokens)
descor* (1 token)
Other possible misspellings such as "corrazon," "corozon," etc.

The Cambridge Learner Corpus also supports use of regular expression syntax searches (Cambridge Sketch Engine, Using the Learner Corpus, 2012, p. 21). The search string used in this corpus was **heart** in order to capture "heart" with

[9] The CLC uses "European Spanish," but this thesis uses the term "Peninsular Spanish" to refer to the same L1, as mentioned above.

any characters before or after. Since search results give the user either an uncorrected or suggested corrected token, even if it were misspelled the search string would yield the target unit. The images below show examples of the search results and search strings in the CAES and CLC, respectively.

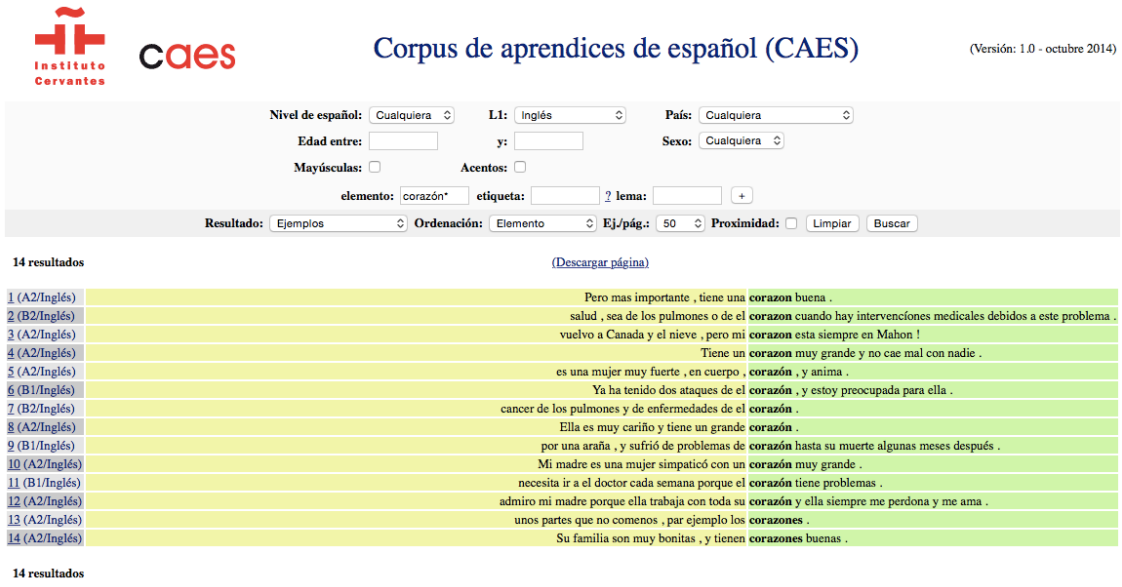

Figure 3.5.1 Examples of concordance data search results in the Corpus de Aprendices de Español (CAES)

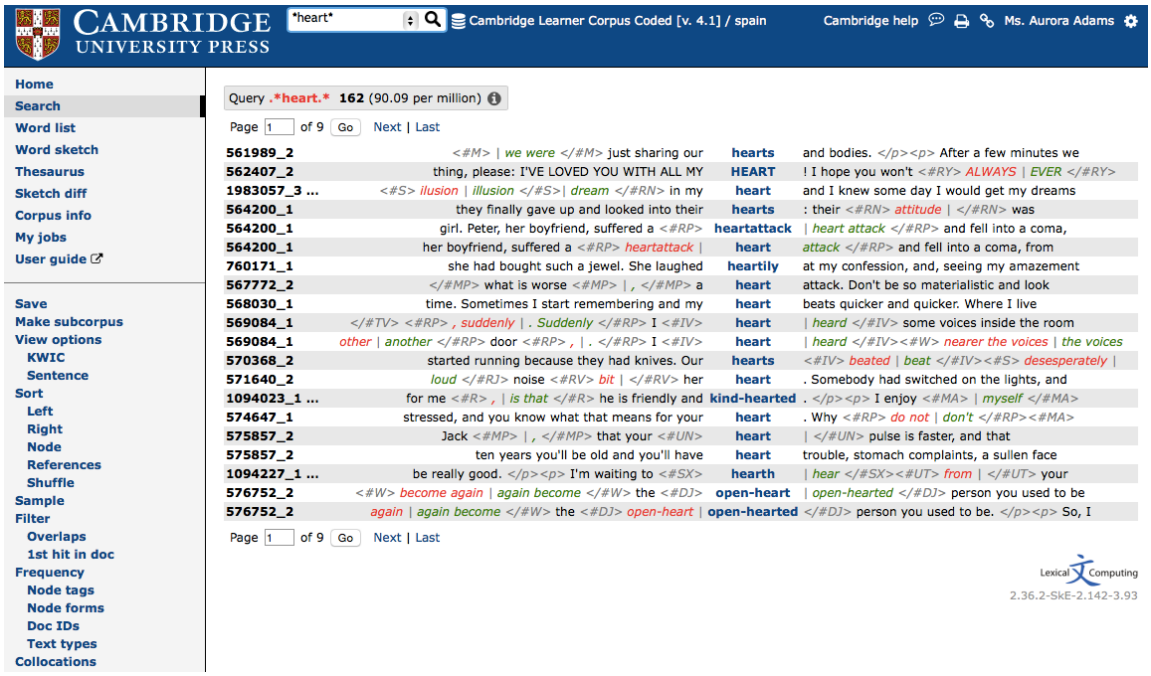

Figure 3.5.2: Examples of concordance data search results in the Cambridge Learner Corpus (CLC)

3.6: Determining Heart Metaphorical Language Use in Learner Corpora

The previously mentioned Pragglejaz method (2007), is a thorough, manual method that requires the use of a dictionary definition for each lexical item. This method does rely somewhat on researcher intuition. For this study, a modified[10] Pragglejaz method was used to determine whether the use of 'heart' in context was metaphorical. This method uses the dictionary to determine whether a given object has a more "basic" or "concrete" definition, which may be "related to bodily action" (Pragglejaz, 2007, p. 3). They note that the most concrete meanings of the word are not necessarily the typical use of the word. The lexical item is examined in context to see whether its usage is literal (or the more concrete, basic definition), or metaphorical (NOT the concrete definition). For example, the Oxford English dictionary's first definition for 'heart' is indeed the more concrete definition as predicted by the Pragglejaz group. The first definition is as follows:"(a) The hollow muscular organ which performs the function of a pump in the circulatory system, receiving blood from the veins and contracting to propel it into the arteries" (*OED Online*, 2017) With this serving as the most concrete definition of "heart," anything not referring to the heart as a literal organ was marked as 'metaphorical usage' (for examples, see table 4.2.2 in the results chapter) As alluded to above, the dictionary used for this particular study was the *Oxford English Dictionary online*, with access granted by the University of Kentucky Libraries.

The context examined in each case was the text in the concordance result. The target unit involving "heart" is placed in the middle of the concordance text results, which, by providing context, allowed for determination of literal or metaphorical usage of the word. In some cases, both the corrected "heart" and erroneous use of "heart" (typically spelling errors) appeared in the search results, which the Sketch Engine program counted as 2 tokens. In this case, each case would be examined to ensure that the writer intended to write "heart" and this was used as one example only, though the data remained in the spreadsheet, marked as a

[10] The method usage in this study is designated as "modified" because it only addresses the target lexical item 'heart,' and not every word in the concordance data, as would be typical with the original method.

duplicate. The CLC concordance offered by the search results contained more words than did the concordances from the CAES (which contained about two sentences). This smaller concordance data did not affect the process of identifying metaphor and categorizing any metaphors found. In one outlier the CLC concordance data was expanded to include several more sentences for more context but was ultimately judged to be an "unsure" or "ambiguous" case.

3.7: Distribution of data into heart metaphor categories in English and Spanish

After the uses of "heart" were judged using the above Pragglejaz method to be metaphorical or literal, each instance of metaphorical 'heart' was categorized, if possible, into one of the discrete categories provided by Gutiérrez Pérez. The concordance data was truncated into a phrase for easy reference, preserving the wording of the larger concordance. As an example, please see a sample of the spreadsheet data set from the CLC:

a date <#RT> in | on </#RT> which they "should" give a present. (new paragraph) <#RV> Coming | Going </#RV> back to handmade presents could be a good idea to stop this stunning wave of commercialized feelings. A good present should be from the **heart** . <#UD> The one | One </#UD> that <#RV> gets | carries </#RV> deep emotional meaning. It <#AGV> do | does </#AGV> not have to be the most expensive thing in the shop. Sometimes just a picture and a few lines written with feeling are <#UY> too | </#UY>	Y	A good present should be from the heart

Figure 3.7.1 Example of data compilation featuring CLC concordance result, metaphorical versus literal code, and truncated version of concordance data.

On the left, we see the concordance data from CLC search function, with perceived errors in red, a suggested correction in green, and "heart" in bold and blue. The center column, which here shows "Y," communicates that this example was judged to be "yes, metaphorical." In the right column, "A present should be from the heart" is the simplified, truncated version of the concordance data to allow for easier categorization.

Next, each data point was labeled as the category that it corresponded to from the Gutiérrez Pérez (2008) publication. Please see the below example:

she hasn't changed anything: at that moment <#UD> the | </#UD> time stopped for her as her heart was <#UY> badly | </#UY> broken. She was deeply in love with him. (new paragraph) Miss Havisham had no love left in her **heart** for anyone, not even for Estella, a girl she adopted as <#UD> a | </#UD> revenge: she wanted Estella to break every <#AGN> men's | man's </#AGN><#AGN> hearts | heart </#AGN> , including Pip's. (new paragraph) Hi! (new paragraph) My name <#UA> it's |	Y	No love left in her heart for anyone	Heart is a container for emotion

Figure 3.7.2: Example of data compilation featuring CLC concordance result, metaphorical versus literal code, distilled version of concordance data, and categorization from reference data (see table 3.1.1).

The column on the right corresponds to the category of the metaphors in question.

Next, each example was evaluated using the reference data to be applicable to one or both languages (thus addressing the research questions, as can be seen in the column on the right).

idea </#RN> of turning the word mistake upside down, she now gathered all the courage accumulated after a life of "mistakes" never fought <#RY> back | against </#RY> and with <#MD> | a </#MD> decisive step she climbed the stairs leading to the **heart** of her conflict: the source of the 'mistake' in person. She knocked <#MT> | on </#MT> the door of "Mr Right" with a terrible feeling of being "Miss Wrong". A dry "Come	Y	Heart of her conflict	The heart is the center of something	Both Eng and Span
because we can work <#UT> as | </#UT> part-time, that is, we would have enough time to study. Also, the bookshop is situated in <#RP> Central | central </#RP> London <#RC> therefore | so </#RC> it would be a luxury to work in the **heart** of the city. (new paragraph) There are plenty of reasons for us to apply <#RP> , | : </#RP> the first one is that we <#TV> can | could </#TV> practise our English. You know that the college is not enough to learn a language,	Y	Heart of the city	The heart is the center of something	Both Eng and Span

Figure 3.7.3: Example of data compilation featuring CLC concordance result, metaphorical versus literal code, distilled version of concordance data, categorization from reference data, and designation of whether used by either or both language varieties.

Chapter 4: Results

4.1: Frequency of Metaphorical and Literal Uses of 'Heart'

Table 4.1.1: Tokens of metaphorical and literal uses of "heart" in both learner corpora. Total word count of each subcorpus included in parentheses.

	Cambridge Learner Corpus Subcorpus (1,798,275 words)	**Corpus de Aprendices de Español Subcorpus (106,968 words)**
Literal	65	6
Metaphorical	82	8

There were a total of 162 tokens found of "heart" in the Peninsular Spanish subcorpus in the CLC (those not included in the above table were duplicates or misspellings of other lexical items). In this particular subcorpus of CLC there seemed to be a writing prompt that discussed literal heart health or the effects of stress on the body. This matter is addressed in the limitations chapter of this work. The other non-metaphorical uses of heart typically stemmed from discussion of hearts pounding with anxiety, shock, or nervousness. In the CLC data, there were 82 examples evaluated by the researcher to be metaphorical uses of "heart" using the Pragglejaz method described in the methods section.

In the CAES subcorpus data there were 14 tokens found of "heart" seen throughout 12 individual essays. 8 of these tokens were judged to be metaphorical using the previously described method. Non-metaphorical uses of heart mainly discussed heart health or diet (see table 4.1.2 below). Using the Pragglejaz method meant that metonymy was not addressed in this thesis, and should be considered in the interpretation of results.

Table 4.1.2: Examples of non-metaphorical "heart" usage in the two examined corpora, CLC and CAES

Type of Literal "Heart" Usage	**Example from Examined Corpora**
Heart health	"…necesita ir al doctor cada semana porque el corazón tiene problemas" (CAES Subcorpus)
Stress, nervousness, or anxiety	"Sometimes I remember and my heart beats quicker and quicker" (CLC Subcorpus)
Literal heart organ	"I received a new heart" (CLC Subcorpus)

4.2: Corpora Results of Shared Conceptual and Linguistic Metaphors

The conceptual and subsequent linguistic metaphors that are shared between the languages comprised by far the highest frequency of examples. This is hardly surprising, given the extensive list of shared metaphors (see table 3.6.1) in section 3.6 in this paper. This data did pose some challenges, especially in the area of conceptual versus linguistic metaphors. While the conceptual metaphors are overwhelmingly similar, the linguistic or lexical implementation of these metaphors displayed lots of variation. Furthermore, and also not surprising, the data did not always fit perfectly into one category. As is evident in the table below, some data seemed to fit into more than one conceptual metaphor.

Table 4.2.1 Concordance data displaying illustrative examples of linguistic implementation of shared conceptual and linguistic metaphors.

Shared Categorization(s)	**Examples of Shared "Heart" Metaphors from Corpora Data**
The heart is the center of something	*"This hotel is located in the heart of the city…"* (CLC Subcorpus)
The heart is the seat of love, the heart is sincerity, the heart is a container for emotion	*"I made that decision with my heart"* (CLC Subcorpus)
The heart is a container for emotion	*"…A feeling of sadness will fill your heart at the moment of leaving"* (CLC Subcorpus)
	"and she didn't mind because she had those feelings in her heart" (CLC Subcorpus)
	"…she could feel her heart full of fear and hate" (CLC Subcorpus)
Big heart and connotations	*"Tiene un corazon [SIC] muy grande"* (CAES Subcorpus)
The heart is a living organism, the heart is material	*"Tienen corazones buenas [SIC]"* (CAES Subcorpus)
The heart is sincerity, the heart is the seat of love	*"A good present should be from the heart"* (CLC Subcorpus)
Lose heart or *descorazonarse*	*"Her parents decided not to lose heart and sent her to an [SIC] special school…"* (CLC Subcorpus)

4.3: Research Question 1 Results

The first research question asked whether there was evidence of learners using "heart" metaphorically in the target variety in ways that are specific to their

native variety, and not in the target variety. In other words, did learners transfer any metaphorical uses of 'heart' from the L1 that are not common in the L2? To answer this question, the methods described in section 3 were used on each data point.

Based on the reference guide from Gutiérrez Pérez (2008), in the CLC data there was no clear evidence of the transfer of Peninsular Spanish- specific linguistic metaphors in the learner corpus data. That is to say that there were no instances found of L2 English speakers transferring linguistic or conceptual metaphors that are mostly unique to Peninsular Spanish. Similarly, in the smaller CAES data set there were no obvious examples of L2 Spanish speakers transferring linguistic or conceptual metaphors that are not common in Spanish. In other words, in the CAES there were no clear examples of L1 English students using uniquely English metaphors while writing in Spanish. Please refer to tables 3.1.2 and 3.1.3, which detail these language-specific metaphors.

4.4: Research Question 2 Results

The second research question asked whether there was evidence of learners using "heart" metaphorically in their L2 in ways that are not typical of L1 as proposed by Gutiérrez Pérez (2008). There was no clear evidence of new metaphor uses in the CAES concordance data, which is reasonable given the small number of metaphorical tokens of "heart" from the subcorpus. However, the larger data set from the CLC revealed several new linguistic and conceptual metaphors in the L2 English data. Below are all examples deemed to be uses of linguistic and conceptual "heart" metaphors that are not typically seen in the L1.

Table 4.4.1: Comprehensive list of examples of new "heart" metaphors in the CLC concordance data

Categorization(s)	**Examples of new "heart" metaphor usage from the CLC subcorpus (examples given without proposed corrections annotated in the corpus)**
The heart is the seat of intellect "learning something by heart" (English) and "*aprender de memoria*" (Spanish)	*"Students in Spain tend to learn everything by heart, without good comprehension of what they are reading…"*
	"…those who went from town to town telling by heart all those stories about divinities…"
	"So, make sure you know my number by heart or write it down…"
	"The emphasis is put on learning concepts by heart, rather than reasoning them…"
To one's heart's desire or content	*"I started to laugh to my heart's content for about 15 minutes…"*
"The heart sinks" (English) and "se le cayó el alma a los pies" (Both share SADNESS IS DOWN)	*"But then my heart sank in disappointment…"*
Warm-hearted	*"…India always has an effect on the most sensitive and warm-hearted people…"*
	"…In my opinion, you also have to be a warm-hearted person"

It is possible that the rate of acquiring these new metaphors is speeded up by their dissimilar nature from the speaker's native variety. If we again consider the Similarity Differential Rate Hypothesis (SDRH) (Major and Kim, 1996), we might

predict that the individuals would use the new 'heart' metaphors more quickly and/or accurately because there was not a similar structure in the learners' L1 to confound the acquisition of the structure.

Most of these examples featured the usual implementation of the linguistic metaphors. For example, though we know that use of prepositions is a challenging feature to learn in the L2, each learner used "*learn by heart"* with "by" and not another preposition. As Diegnan and Potter (2003) noted, some phrasing of the linguistic metaphors were unusual or non-canonical. This may be an effect of learner's exercising a new skill. Though we cannot know this information for certain, some metadata may be able to give us a clue about the learners language level. Each document had a different ID number and each text in these examples used "heart" only once. Since these were exams that students were taking to measure their level of acquisition, we can consider their language ability and level of acquisition somewhat. In these 8 examples, the Common European Framework of Reference (CEFR) scores ranged from B1 Threshold (with passing score) to C2 Mastery (passing score). There were 5 females and 3 males represented, and their ages ranged from 12 to 20-30.[11]

Section 4.5: Ambiguous Concordance Data and Proposed Correction Data

Not surprisingly, there was some ambiguous data, or data that was challenging to file into one discrete category of linguistic metaphor, encountered in the analysis. Table 4.6.1 shows some areas of ambiguity that were particularly challenging to categorize, and as a result were left out of the count of the two research questions. These examples highlight the challenge of working with learner writing, and with using a set framework for analysis. Though it is tempting to use speaker intuition in analyzing these examples, this was avoided since I employed the framework provided by Gutiérrez Pérez (2008).

[11] "20-30" is the age range used in the documentation and results of the CLC.

Table 4.5.1: This table shows two examples of ambiguous data that were excluded from the summaries of results of the two research questions.

Suggested Categorization	**Ambiguous Data in the Corpora Data**
This seems to relate to "the 'heart' is sincerity," "the heart is a living organism," or "the heart is a container for emotion," but since it appeared to be an outlier in the data, it was marked as "ambiguous"	"*I am sure there is a fool, hero, or saint in everyone's heart*."
This sentence seems to using 'heart' metaphorically to express commitment, but there was seemingly no good pairing with the reference data compiled by Gutiérrez Pérez (2008).	"*Regardless of what the final outcome turns out to be, athletes set out to give their hert* [SIC] [suggested correction *heart*]"

Interestingly, the CLC concordance data included four examples where the proposed correction had a linguistic 'heart' metaphor and the original writing did not. Conversely, and included in that tally, the suggested correction sometimes suggested a lexical item or phrase without a 'heart' metaphor when the original writing included it. While this could be simply non-canonical learner language, we consider that this situation could clearly show the epicenter of cultural variation of the use of 'heart' metaphors from native speakers of respective L2s. The CLC shows these suggested corrections in the results, but we do not have access to suggested corrections in the CAES. It would be interesting to compare the two if the CAES were an error-coded corpus.

Table 4.5.2: This table shows three examples from the CLC of disconnections between original learner word choice and proposed corrections relating to 'heart' metaphors. The commentary in the first column clarifies the coding of each example.

Commentary	**Phrase from Corpus Data**
In this example, we see the perceived errors in red, and the suggested corrections in green. 'Heart' (bolded for visibility) is red to mark an error, and 'love' appears next to it as a suggested correction.	in the <#RP> country side | countryside </#RP> . Well, I've <#MV> | got </#MV> to <#RV> pay you back | repay you </#RV> . I want to invite you to my country. I'll wait <#MT> | for </#MT> your answer. (new paragraph) <#S> Whit | With </#S> all my <#RN> **heart** | love </#RN> , (new paragraph) WALKING IN THE RAIN (new paragraph) It was Friday, a sad and rainy Friday <#RT> of | in </#RT> January. I was walking from <#UD> the | </#UD> school to my house, and I was angry. I <#TV> didn't | hadn't </#TV>
The example to the right shows a suggested correction (in green) that uses a 'heart' metaphor while the original lexical item "deeply" (seen in red), does not.	blouse and a skirt, and trainers. *(new paragraph)* To whom it may concern, *(new paragraph)* I am writing you all a few lines in order to remind you that tomorrow our new advertising campaign <#RV> sets off | is launched </#RV> . I <#RY> deeply | **wholeheartedly** </#RY> believe in this excellent CD player and think that choosing to advertise <#MA> | it </#MA> on radio will be the fastest lane to <#FV> reach | reaching </#FV> our <#RV> aimed | targeted </#RV> young market. *(new paragraph)* Expectations are high and our goal is to <#RV> succeed | exceed </#RV>
This example is particularly interesting because the L1 Spanish learner uses "chicken-hearted," (bolded in red) which is not typical of Spanish. The suggested correction is "cowardly" (in green). This may be an example of a learner using a learned 'heart' metaphor but using it non-canonically.	to repair all the broken tools. Unfortunately <#MP> | , </#MP> most times he made matters <#FJ> worst | worse </#FJ> . I appreciated his courage because <#SX> latter | later </#SX> , when I finally knew my father <#MP> | , </#MP> I found that he was a <#RJ> **chicken-hearted** | cowardly </#RJ> person. *(new paragraph)* I was seventeen years old when I came to Switzerland to live with my parents. Unfortunately <#MP> | , </#MP> they were not used to <#RV> making | paying </#RV> compliments, and even if I was a good student they

4.6: Disambiguation of several examples with the help of a consultant

Some phrases that appeared often in the data did not seem thoroughly addressed by the classification system. For example, in "*mi corazon* [SIC] *esta* [SIC] *siempre en Mahon*" from the CAES L2 Spanish data (L1 English), we see the image of

the heart remaining in a location that is dear to the person. While we have several conceptual metaphors that would possibly address this (consider THE HEART IS THE SEAT OF LOVE and THE HEART IS A LIVING ORGANISM), this kind of phrase is not addressed specifically in the reference literature. For several related phrases, I consulted one native speaker of Spanish[12] to see their intuition on the acceptability of these phrases. The heart remaining in a location as an expression of "dearness" is also a linguistic metaphor that appeared in the CLC L2 English data. The consultant confirmed that they would express the same idea in similar ways. One could say that a place has "…*un trocito/cachito de mi corazón*" (in English, "a little bit of my heart") to say that a person or place has a piece of their heart. The consultant also insightfully noted that a speaker might often use gesture when referring to "dearness," and would not always say 'heart' when expressing these ideas. For example, one might say "*te llevo aquí*," (I carry you here) while gesturing toward the heart or chest. While we cannot see these results in a written learner corpus, a future study could incorporate data of when L1 English and L1 Spanish speakers gesture toward the heart when using 'heart' metaphors or in other instances. Might we see these same patterns of acquisition that we saw in this corpus data? Or would a physical expression of a 'heart' metaphor be more deeply rooted in the mind, and would be more subject to transfer? Future explorations of these types of questions could be intriguing and informative for this branch of acquisition research.

[12] Peninsular Spanish.

Chapter 5: Limitations and Future Work

Several methodological limitations must be considered in interpretation of the results. As stated, analysis of the 'heart' and 'corazón' metaphors uncovered in the two corpora was limited to the framework of the reference data from Gutiérrez Pérez (2008). This work was dependent, therefore, on the findings of that research. Other limitations come from the nature of the writing prompts from the two learner corpora. For this work, the writing prompts that each student responded to were not compiled or explored. Some writing prompts may have been more conducive to the elicitation of metaphors or discussion of emotion than others. Future work could refine this methodology by controlling for writing prompt, or by quantifying metaphors in learner responses depending on writing prompt in order to examine this further.

On a related note, individual differences must be considered in the interpretation of the results. Since this research relates to the origin of emotion, some writing prompts might tend to elicit more discussion of emotion from certain learners, and therefore we might see more 'heart' metaphors in data from those individuals. Furthermore, some learners may simply tend to use metaphors more often in their L1s, which could carry over to L2 writing. Future research could shed light on these results by establishing a baseline of individual tendencies of metaphor usage in their L1s, which might affect metaphor use in the L2. Other factors, like avoidance behaviors, must also be considered here. Abstract language is challenging in itself, and could have been daunting to learners trying to prove their L2 language abilities in an examination environment. In general, this work did not thoroughly examine learner variables as predictors of metaphor usage. Further exploration in this area could use multivariate analysis to shed light on learner variables that may affect the nature of metaphor usage in the L2.

Furthermore, because of similarities between English and Spanish, as well as the increased access we have to other cultures in a globalized world, these language varieties are challenging to compare and contrast. We may see more distinctive

results by comparing very dissimilar languages, or language varieties that have very little contact with each other.

Chapter 6: Discussion

The results chapter lists examples to illustrate the findings of this thesis. To address the first research questions (whether there was transfer of 'heart' metaphors into the L2), this study found that there were no obvious examples of the transfer of 'heart' metaphors into the L2 that are unique to the L1. A larger data set might have revealed more instances of transfer. Furthermore, perhaps the 'heart' metaphors that are unique to each language are infrequently used, even by native speakers. For example, though "lion heart" is used predominantly in English and not in Spanish, it may not be used frequently by native speakers. Measuring the frequency of these metaphors in native speaker corpora could shed more light on this situation. Similarly, a future study could examine an area of metaphor that has more language-specific or culturally-specific metaphors, or overlaps less than the example provided in this study, to see if there are more instances of transfer.

One of the most interesting findings of the second research question involves the distribution of the results across a variety of learner profiles. We might expect to see learners in similar situations (for example, having taken the test in the same year, or at similar ALTE levels) using these new metaphors, perhaps as a result of a specific style of instruction or even individual instructors teaching methods. However, the results show a distribution of the metaphors across drastically different learner variables, especially in age and year of exam (the dates of these specific documents ranged from 1993 to 2010). We can say then that the findings of the second research question revealed the possibility that several learners learned and used a 'heart' metaphor that does not typically occur in their native variety, and therefore, they learned something new and used it in practice. Furthermore, Gutiérrez Pérez (2008) discussed "learn by heart" as a conceptual metaphor (the heart is the seat of intellect) that is not shared between the languages, making the emergence of the canonical form of this phrase in the CLC a particularly interesting finding. Furthermore, the canonical way this phrase appeared in the learner corpus

("knowing" or "learning" something "by heart," with no errors in the preposition "by," for example) perhaps can be examined through the lens of the SDRH (Major and Kim, 1996), since "learn/know by heart" is dissimilar from the Spanish equivalent (*aprender de memoria* or in English "learn by memory"), and therefore was perhaps more salient to the learners.

Some researcher intuition was used in this investigation, as was the case with the reference data (noted by Gutiérrez Pérez (2008), as well). Gutiérrez Pérez's classification system was used, in part, to guard against the potential for bias or over-interpretation, caused by speaker intuition on the part of the researcher. The metaphors analyzed in the results are the metaphors that are definitively addressed in the classification system from Gutiérrez Pérez, so there may be other conceptual and linguistic metaphors that are language specific that were left out of the results of this study in order to avoid manipulation of the data. Also, this study was not without ambiguity. Surprisingly, the ambiguity was not in the decision of whether or not something was metaphorical, but rather in the categorization practice. Data processing was limited to the results of Gutiérrez Pérez's (2008) analysis. As a control, speculation was avoided in favor of more definitive results supported by the 2008 study. Therefore, it is possible that there are more examples of linguistic metaphors used by learners that were not addressed specifically by reference.

It is also important to note that the broader categories (like THE HEART IS A CONTAINER FOR EMOTIONS) had less specific associated wordings, which could result in a wider interpretation. Another challenge to this study was presented by relative lack of information about the CLC learners compared to the CAES learners (for example, how long students have been learning the L2, at what age they began learning L2, whether they have any personal family or friends that are native speakers of the L2, etc.). Since we are unable to know the time spent in an L2-speaking location, or whether they have close personal friends or family that may have been speaking the target variety, it is difficult to say definitively that the learners using the "new" linguistic or conceptual metaphors had really learned something new. Future studies could fill in gaps in research of this kind by obtaining more meta-data on learners, which is available in some learner corpora but not all.

One interesting finding of this study (discussed also in the results chapter) was the nature of the proposed corrections. As mentioned previously, the CLC is hand coded for errors, and both errors and the proposed corrections come up when search strings match either item. In several cases (see table 4.6.2), the proposed correction contained a linguistic 'heart' metaphor where the original writing sample did not, or vice versa. It is important to note that in the correction protocol of the CLC, the proposed correction does not overwrite the original lexical item or phrase from the author, but puts it side by side with the original result. The findings of this study would not be possible without the assistance of the proposed corrections, as the search results would not have been as complete.

It is clear from the literature review that the acquisition of metaphor is beginning to make its way into the SLA pedagogy, not only as a way to learn target lexical items, but to address the possibility that other cultures' languages reveal conceptual variation in thought patterns. Future research should address variety in metaphor use among other languages, to reduce the use of English as a seemingly "neutral" language of comparison (Wierzbicka, 2006). Furthermore, future corpus composition should take into account the clear interest in the study of metaphor and consider incorporating metaphor into tagging practices and metadata.

Appendix A: Searchable task and learner variables in the examined learner corpora

Cambridge Learner Corpus (CLC):

Document ID
First Language
Nationality
Exam
CEFR Level Exam
CEFR Level Student Performance
Pass/Fail
Year
Age
Gender
ALTE Level
Education Level
Question Number
Doc. Question ID
Doc. Qu. Paper
Doc. Exam Score
Format
REGISTERED MAIL Style
IELTS Coherence and Cohesion
IELTS Task Achievement/ Response
IELTS Lexical Resource
IELTS Grammatical Range and Accuracy
IELTS Grade
Doc. Total
Doc. Score
Doc. Score 1
Doc. Score 2
Doc. Score 3
Doc. Score 4
Doc. Score 5
Doc. Grade 1
Doc. Grade 2
Doc. Grade 3
Doc. Grade 4
Doc. Grade 5
Doc Wordcount
Error
Correction

Appendix A, cont.

Corpus de Aprendices de Español (CAES):

Nivel adquirido de conocimiento de español (de A1 a C1)- Level of Spanish
L1 (lengua inicial o familiar)- First or family language
País de residencia- Country of residence
Edad- Age
Sexo- Sex

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